

REMARKS

Applicants appreciate the detailed examination evidenced by the Official Action mailed January 27, 2010 ("Office Action"). In response, Applicants have amended independent Claims 1 and 20 as set out above. Accordingly, Applicants respectfully submit that the pending claims are patentable for at least the reasons discussed below.

Interview Summary Under MPEP §713.04

On April 26, 2010, Examiner Franklin granted Applicants' representative, Vernon H. Guthrie, a telephonic interview to discuss the rejections of the Office Action. Applicants' representative and Examiner Franklin discussed independent Claims 1 and 20 in view of the art of record. In particular, Applicants' representative and Examiner Franklin discussed the controller circuit of the claims in light of the Holman reference. Examiner Franklin agreed with the position of Applicants' representative that the access information received by the access control logic circuit in the Holman reference is not exclusively command information, but rather includes a memory address. Examiner Franklin stated that this distinction between Holman and the controller circuit of the claims should remove Holman as a reference. Examiner Franklin also suggested amending the independent claims to clarify that the controller circuit "receives only" command information, instead of stating that it "only receives" command information. Applicants appreciate Examiner Franklin's willingness to discuss the rejections in a telephonic interview and his careful consideration of Applicants' arguments.

The Section 103 Rejections

Claims 1, 3, 5, 7, 20, 24, and 27-28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,839,774 to Ahn ("Ahn") in view of U.S. Patent No. 5,968,141 to Tsai ("Tsai"), in further view of U.S. Patent No. 6,028,445 to Lawman ("Lawman"), and in further view of U.S. Patent No. 6,910,109 to Holman ("Holman"). (Office Action, page 2.) Amended independent Claim 1 recites, in part (*emphasis added*):
transferring command information only to the programmable memory

controller circuit, wherein **the programmable memory controller circuit receives only command information**, wherein command information is used to generate control signals used in conjunction with data information and address information transferred to the buffer circuit, wherein the control signals are only generated by the programmable memory controller circuit;

Applicants submit that the recitation in amended Claim 1 that "the programmable memory controller circuit **receives only command information**" is not disclosed or suggested, either singularly or in combination, by the cited references. (*Emphasis added.*) The Office Action concedes that "Ahn in combination with Tsai and Lawman does not teach wherein the programmable memory controller only receives command information." (Office Action, page 5.) In rejecting Claim 1, however, the Office Action points to column 3, lines 44-48, and the access control logic circuit 410 of Holman as teaching that a programmable memory controller only receives command information. (Office Action, page 5.) In contrast with Claim 1, the cited portion of Holman states that "[t]he access control logic circuit 410 receives the access information from the processor 110 as decoded by the memory controller 130. The access information includes a memory access request, a type of access (read or write), **and a memory address of the access.**" (Holman, col. 3, lines 44-48, *emphasis added.*) The access control logic circuit 410 of Holman therefore receives memory access requests, information about the type of access, and memory addresses. As agreed in the telephonic interview, the memory addresses are not command information. Holman thus does not disclose or suggest that "the programmable memory controller circuit receives only command information," as recited in amended Claim 1, but rather teaches away from this recitation of Claim 1. Accordingly, as Ahn, Tsai, and Lawman also fail to supply this recitation of amended Claim 1, Applicants respectfully submit that Claim 1 is patentable for at least this reason.

Although not discussed in the telephonic interview, even assuming that the access control logic circuit 410 of Holman received only command information, it would not be obvious to combine Holman with Ahn, Tsai, and Lawman. The Office Action contends that the NVM controller 160 of Ahn corresponds with the programmable memory controller circuit of Claim 1, but Ahn states that the "NVM controller 160 receives a set of mode

command, data and address...and **directly controls operations of the EEP-NVM 130 based on the command and the address** without intervention of CPU 120." (See Office Action, page 2; Ahn, col. 5, lines 22-26, *emphasis added*.) Accordingly, Ahn would be inoperable for its intended purpose of directly controlling the EEP-NVM 130 if its NVM controller 160 was modified to exclude address information. Therefore, since the proposed modification cannot render the prior art unsatisfactory for its intended purpose (MPEP 2143.01 V), it would not have been obvious to one of ordinary skill in the art to modify Ahn's NVM controller 160 to only receive command information. Claim 1 is thus patentable for at least this additional reason.

Independent Claim 20 includes analogous recitations to Claim 1 and is also patentable for at least the reasons described herein. Accordingly, Applicants respectfully request further examination of the claims and the allowance of all claims for at least the reasons described herein.

Claims 3-5, 7, 10, 24-25, and 27 depend from Claim 1, and Claim 28 depends from Claim 20. Applicants traverse the rejection of the dependent claims. However, as each of these claims depends from a base claim that is believed to be in condition for allowance, Applicants do not believe that it is necessary to argue the allowability of each dependent claim individually. Applicants do not necessarily concur with the interpretation of these claims, nor with the bases for rejection set forth in the Office Action. Applicants therefore reserve the right to address the patentability of these claims individually as necessary in the future.

In re: Kim et al.
Serial No.: 10/730,960
Filed: December 9, 2003
Page 9 of 9

Conclusion

In view of the above remarks, Applicants respectfully request withdrawal of all rejections and objections and the allowance of all claims in due course. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is encouraged to contact the undersigned by telephone at (919) 854-1400.

Respectfully submitted,



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CERTIFICATION OF TRANSMISSION

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4) to the U.S. Patent and Trademark Office on April 26, 2010.



Katie Wu